

I CLAIM:

1 1. A method of cutting a piece off an elongated web
2 and transporting the cut-off piece transversely from the web
3 using an apparatus comprising:

4 a gripper closable on the web and displaceable
5 longitudinally of the web along a longitudinal path between an
6 advanced position close to a stationary supply of the web and a
7 retracted position spaced longitudinally from the supply;

8 upper and lower clamp parts extending transversely
9 across and vertically flanking the path; and

10 upper and lower longitudinally generally
11 nondisplaceable upstream clamp parts extending transversely
12 across and vertically flanking the path between the downstream
13 clamp parts and the supply;

14 the method comprising the steps of sequentially;

15 a) with the upper clamp parts spaced vertically from
16 the lower clamp parts, displacing the gripper upstream toward the
17 supply between the clamp parts, closing the gripper on the web,
18 and pulling the web downstream along the path between the clamp
19 parts so that a length of the web extends downstream along the
20 path from the supply between the clamp parts, and closing the
21 upstream clamp parts on the web to clamp it;

22 b) transversely through cutting the web between the
23 supply and the upstream clamp parts to create a separate

24 downstream piece held between the gripper and the upstream clamp
25 parts;

26 c) displacing the gripper while still closed on the
27 piece back downstream such that the piece forms a dependent loop
28 between the gripper and the upstream clamp parts until the
29 gripper is immediately downstream of the downstream clamp parts
30 and displacing the lower downstream clamp part simultaneously
31 upward and upstream toward the upper downstream clamp part to
32 clamp the web between the upper and lower downstream clamp parts
33 when the gripper is immediately downstream of the downstream
34 clamp parts;

35 d) releasing the web from the gripper; and

36 e) transporting the piece as a dependent loop
37 horizontally transversely of the direction with the clamp parts
38 without significantly longitudinally displacing the clamp parts.

1 2. The method defined in claim 1 wherein the
2 longitudinal direction is horizontal.

1 3. The method defined in claim 1 wherein in step the
2 lower downstream clamp part is displaced in step c) between an
3 upper position pressing the web against the upper downstream
4 clamp part and a lower position spaced upstream and below the
5 upper downstream clamp part.

1 4. The method defined in claim 3 wherein the lower
2 downstream clamp part moves in a straight line between its upper
3 and lower positions.

1 5. The method defined in claim 3 wherein the lower
2 clamp part moves in step c) in an arc between its upper and lower
3 positions.

1 6. The method defined in claim 1, further comprising
2 supporting the web on a flat surface between the supply
3 and the upstream clamp part.

1 7. The method defined in claim 1 wherein the upper
2 clamp parts include respective transversely displaceable
3 elements, the piece being transported horizontally transversely
4 of the direction by transverse shifting of the transversely
5 displaceable elements relative to the respective lower clamp
6 parts.

1 8. The method defined in claim 7 wherein the upper
2 clamp parts are vertically substantially fixed.

1 9. The method defined in claim 8 wherein during step
2 c) the piece slides on the lower clamp parts.

1 10. The method defined in claim 1 wherein, in step a)
2 during displacement of the gripper upstream of the downstream
3 clamp parts, the upper clamp parts are spaced sufficiently above
4 the lower clamp parts that the gripper can pass between them.

1 11. An apparatus for cutting a piece off an elongated
2 web and transporting the cut-off piece transversely from the web,
3 the apparatus comprising:

4 a gripper closable on the web;

5 means for displacing the web longitudinally of the web
6 along a longitudinal path between an advanced position close to a
7 stationary supply of the web and a retracted position spaced
8 longitudinally from the supply;

9 upper and lower clamp parts extending transversely
10 across and vertically flanking the path;

11 upper and lower longitudinally generally
12 nondisplaceable upstream clamp parts extending transversely

13 across and vertically flanking the path between the downstream
14 clamp parts and the supply;

15 control means for, with the upper clamp parts spaced
16 vertically from the lower clamp parts, displacing the gripper
17 upstream toward the supply between the clamp parts, closing the
18 gripper on the web, and pulling the web downstream along the path
19 between the clamp parts so that a length of the web extends
20 downstream along the path from the supply between the clamp
21 parts, and closing the upstream clamp parts on the web to clamp
22 it;

23 cutter means for transversely through cutting the web
24 between the supply and the upstream clamp parts to create a
25 separate downstream piece held between the gripper and the
26 upstream clamp parts;

27 drive means for displacing the gripper while still
28 closed on the piece back downstream such that the piece forms a
29 dependent loop between the gripper and the upstream clamp parts
30 until the gripper is immediately downstream of the downstream
31 clamp parts and displacing the lower downstream clamp part
32 simultaneously upward and upstream toward the upper downstream
33 clamp part to clamp the web between the upper and lower
34 downstream clamp parts when the gripper is immediately downstream
35 of the downstream clamp parts;

36 means for releasing the web from the gripper; and

37 means connected to the upper clamp parts for
38 transporting the piece as a dependent loop horizontally

39 transversely of the direction with the clamp parts without
40 significantly longitudinally displacing the clamp parts.

1 12. The apparatus defined in claim 11 wherein the
2 upper clamp parts each include a transversely advanceable belt
3 having a lower stretch against which the respective lower clamp
4 part presses the web.

1 13. The apparatus defined in claim 11 wherein the
2 guides include a pair of guides on which the downstream lower
3 clamp part can slide.

1 14. The apparatus defined in claim 13 wherein the
2 guides are straight.

1 15. The apparatus defined in claim 13 wherein the
2 guides are curved.